

For a claim to be anticipated under 35 U.S.C. § 102(b), each and every element of the claim must be found in a single prior art reference. *See* M.P.E.P. § 2131. Kino et al. does not described each and every element of the claims.

For example, claim 1 describes an ellipsometer apparatus for use in providing an image of at least a portion of a sample. The ellipsometer apparatus includes an objective lens having a focal plane at which a sample plane of the sample is positioned and an illumination source for providing incident light normal to the sample plane. The incident light includes linearly polarized light incident on the objective lens. The objective lens focuses the incident linearly polarized light onto the sample and at least a portion of the focused incident polarized light is reflected by the sample resulting in reflected light. A spatial filter is used to modify at least a portion of the incident light or the reflected light. The spatial filter is positioned at a plane of an exit pupil of the objective lens (e.g., positioned adjacent the objective lens in an actual plane of the exit pupil thereof or positioned in a conjugate plane of the exit pupil of the objective lens). An analyzer portion is operable to generate polarization information based on the reflected light. Claim 13 provides a method wherein at least a portion of the incident light or the reflected light is spatially filtered using a spatial filter positioned at a plane of an exit pupil of the objective lens. In other words, both claim 1 and 13 include a spatial filter positioned at a plane of an exit pupil of the objective lens.

Kino et al. does not describe a spatial filter positioned at a plane of an exit pupil of the objective lens. Kino et al. describes a pinhole that allegedly acts like a spatial filter to reflected light (see column 5, lines 5-15). However, such a pinhole is not positioned at a plane of an exit pupil of the objective lens.

For example, in Kino et al. the pinhole or pinholes (which allegedly act as the spatial filter) are positioned quite far from the objective lens (i.e., about 200 mm away from the objective lens) (see column 4, line 65 and 66). Also as described in Kino et al. at column 4, line 55 through column 5, line 46, the diffracted light from this pinhole uniformly illuminates the pupil plane of the objective lens. The diffraction pattern of the pinhole, which is an Airy pattern, is large enough such that the whole pupil plane of the objective is uniformly illuminated.

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In other words, the pinhole could not be positioned as alleged by the Examiner at the pupil plane. If the pinhole is positioned at the pupil plane, then only a tiny portion of the pupil plane is illuminated while the rest of the pupil plane would not be illuminated at all.

The below figure illustrates the configuration in Kino et al. As can be clearly seen, the pinhole that is alleged to provide the spatial filtering is not positioned at the pupil plane of the objective.

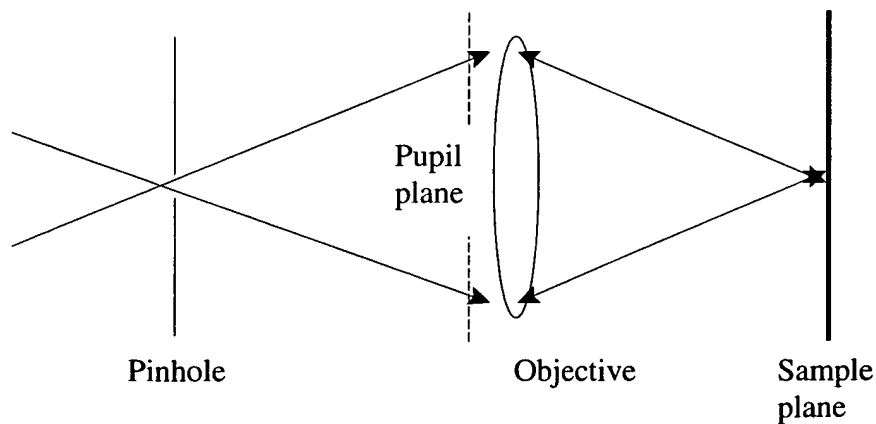


Diagram of the physical locations of the pinhole and the pupil plane described in Kino et al. (5,022,743).

For at least the above reasons, claims 1 and 13 are not anticipated by Kino et al. Further, claims 5, 9, 12, 14, 22, and 24 are dependent on one of claims 1 and 13, either directly or indirectly, and as such include all the limitations thereof. Therefore, such claims are also not anticipated for the same reasons as described above.

Claim 27 describes an ellipsometer apparatus for use in providing an image of at least a portion of a sample that includes an objective lens having a focal plane at which a sample plane of the sample is positioned and an illumination source including an extended light source for providing incident light normal to the sample plane. The incident light includes linearly polarized light incident on the objective lens and the objective lens focuses the incident linearly polarized light onto the sample. At least a portion of the focused incident polarized light is reflected by the sample resulting in reflected light. The apparatus further includes a spatial filter to modify at least a portion of the incident light or the reflected light. The spatial filter is operable to break the azimuth symmetry of the incident light or the reflected light. An analyzer portion of the apparatus is operable to generate polarization information based on the reflected light for use in generating an image of at least a portion of the sample using the polarization information. Claim 35 describes an ellipsometry method for use in providing an image of at least a portion of a sample that includes spatial filtering at least a portion of the incident light or the reflected light. The spatial filtering includes breaking the azimuth symmetry of the incident light or the reflected light. In other words, both the independent claims include spatial filters that are operable to break the azimuth symmetry of the incident light or the reflected light.

Kino et al. does not describe spatial filters that are operable to break the azimuth symmetry of the incident light or the reflected light, e.g., the azimuthal symmetry in polarization. Kino et al. describes a pinhole that allegedly acts like a spatial filter to reflected light (see column 5, lines 5-15). However, such a configuration does not break the azimuthal symmetry in polarization to extract the ellipsometric information as is provided by the present invention.

The filter (i.e., the pinholes) in Kino et al. does not break the azimuthal symmetry. In Kino et al., the pinholes are used to increase the spatial resolution; a standard technique in

confocal microscopes. Polarization or the symmetry thereof is not a concern in Kino et al. According to the present invention, breaking the azimuthal symmetry in polarization allows for the extraction of ellipsometric information (e.g., a spatial filter such as one described in the specification or any other filter that has the necessary configuration to break the azimuthal symmetry is placed at the pupil plane or any conjugate plane of the pupil to break the azimuthal polarization symmetry to extract ellipsometric information). There is no need in Kino et al. to break the azimuthal symmetry in polarization to perform the functions provided thereby, and as such, the pinholes of Kino et al. do not perform such breaking of the azimuthal symmetry in polarization.

For at least the above reasons, claims 27 and 35 are not anticipated by Kino et al. Further, claim 36 is dependent on claim 35 and as such includes all the limitations thereof. Therefore, claim 36 is also not anticipated for the same reasons as described above.

The 35 U.S.C. §103 Rejection

The Examiner rejected claims 2-4, 6-8 (Applicant believes that this was mistakenly written in one location of the Office Action as 6-9), 10-11, 15-21, 23, 25-26, 28-34, and 37-44 under 35 U.S.C. §103(a) as being unpatentable over Kino et al. in view of Ghislain et al. (U.S. Patent No. 5,939,709).

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally the prior art references must teach or suggest all the claim limitations. *See* M.P.E.P. § 2143.

Kino et al. does not teach or suggest all the claim limitations. Claims 2-4, 6-8, 10-11, 15-21, 23, 25-26, 28-34, and 37-44 are dependent on one of the independent claims described above, either directly or indirectly, and as such include all the limitations thereof. Therefore, as described above, Kino et al. does not describe, teach or suggest such claims. Further, Ghislain et

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al. does nothing to remedy the lack of such elements.

Further, such references provide no suggestion or motivation to combine such references to provide the present invention as claimed.

As such, claims 2-4, 6-8, 10-11, 15-21, 23, 25-26, 28-34, and 37-44 are not obvious in view of the cited references.

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Summary

In view of the above remarks, reconsideration and withdrawal of the rejections is requested. Further, it is respectfully submitted that the pending claims are in condition for allowance and notification to that effect is respectfully requested. The Examiner is requested to contact Applicants' Representatives, at the below-listed telephone number, if the above remarks are not considered by the Examiner to be adequate to overcome the pending rejections.

Respectfully submitted for

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20 Feb 2003
Date

CERTIFICATE UNDER 37 CFR §1.10:

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The undersigned hereby certifies that this paper is being deposited with the United States Postal Service "Express Mail Post Office to Addressee" service under 37 CFR §1.10 on the date indicated above and is addressed to the Assistant Commissioner for Patents, Box AF, Washington, D.C. 20231.

By: 

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